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PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 5 1930

REPORT FOR THE WEEK ENDING JULY 5, 1930.

HAVRE:

The past week has been another severe one on crops. Temperatures and wind velocity have not been as high as for the previous week, but there has been only .04 inch of precipitation recorded.

Crops on fallow are still holding on in fairly good shape. On the better methods of fallow, all grain is heading but will be short. Most of the continuous cropping is so badly injured now that it cannot recover. With rains, corn ground would make a light crop. If the present conditions continue, only light yields will be secured from fallow.

Corn has been injured very little and is making nice growth to date. Flax is also progressing satisfactorily except for weeds. There are some reports of injury from canker in this vicinity.

During the week a short trip was made to the west of the station. Beginning about 20 miles west of here, crops are decidedly better. We understand that this condition extends to the mountains. This is due to rains of last week which amounted in places to one and one-half inches. From here east to Glasgow, conditions are no better than they are on the station, and in places they are more severe.

The mountain section, which often records more rainfall than the plains, is suffering severely. Many of the cattlemen are facing a shortage of pasture and hay, necessitating either selling or moving livestock to the west.

Mr. T. R. Stanton, of the Office of Cereal Crops and Diseases, was a visitor at the station on July 3. Mr. Louis Vinke, of the Montana Experiment Station, who is on leave with the Montana Wool Growers, was a station visitor on the 28th.

Maximum temperature 88; minimum 41; precipitation, .04 inch.

SHERIDAN:

Continued hot weather with no rain caused a marked increase in the firing with all grain. On much of the ground where a crop of any kind was raised last year the grain is fired to such an extent that rain would be of little benefit now. The most of the grain on fallow, and some on corn ground, seems to be holding out fairly well, but fallow also is firing badly in spots. Corn and Sudan grass continue to make good progress, although the corn curls badly during the day. The corn is just beginning to tassel.

Winter rye, a part of the winter wheat, and early seeded barley are ripening fast, the barley on some plots merely drying ripe, while on other plots it is filled fairly well.

Cultivation of all row crops was completed early in the week. The corn in plots was hoed and thinned, and all row crops were hoed. Pasture crops are drying up fast.

Maximum temperature 95; minimum 40; precipitation, none.

MANDAN:

Agronomy

The past week had been favorable for all field work.

The late plowed fallow plot in the methods of fallow was plowed during the week. It contained a heavy growth of pepper grass, part of which had gone to seed.

Most of the week has been spent in putting up hay. The yield from field P will be light but that on the other fields is good.

The weather remains dry and crops are in rather a serious condition as there is no reserve moisture in the soil. With a good rain some of the better methods could produce a good crop. Some of the poorer methods are pretty sure to be light.

Mandan, continued:

Agronomy, continued.

The total rainfall for June was 1.50 inches as compared with the 55-year average of 3.44 inches. The cool weather during June kept the crops from burning up.

Maximum temperature 88; minimum 36; precipitation, Trace.

Cooperative Grazing Experiment

The gains of the steers for June were high as the grass was in good condition for grazing. The following gains have been made by the cattle since the grazing season opened:

Pasture (Acres)	No. Steers	Gain per head (lbs.) May (10 days)	June (30 days)	Total (40 days)
100	10	42	110	152.0
70	10	37	102.5	139.5
50	10	28	107.5	135.5
30	10	31	72.5	103.5
Rot. 70	14	24.6	108.9	133.6
Brome 35	8	41.3	114.4	155.6
Brome 10	6	9.2	136.7	145.8
Reserve 93	5	20	92	112.0

The growth of brome-grass in the 10-acre pasture was so heavy that the 5 reserve steers were added on it July 1.

Native pastures dried up badly during the week. Places on the prairie now appear brown.

Arboriculture

Hoeing during the past week has been carried on in the poplar cutting nursery and shelterbelt combinations.

Messrs. E. J. George and Archie Murchie returned July 5 from an inspection trip of shelterbelt plantings in Oliver, Dunn, McKenzie, and Stark counties.

Mandan, continued:

An excellent stand has been obtained in all new 1930 plantings visited. Winter killing to various degrees was found in poplar and willow species in all 15-year old plantings. Other species in 15-year, 10-year, and 5-year old plantings are comparatively green from winter injury. Excellent stands were obtained with Black Hill and Colorado Blue spruce planted the past spring. The plantings of Scotch, Western Yellow and Jack pine are practically complete failures.

BELLE FOURCHE:

Hot, dry weather has prevailed throughout the week, and all crops except corn and sorgo are suffering seriously from lack of moisture. Soil samples taken July 2 show that practically all of the available moisture has been exhausted on small grain plots. Oats and barley are ripening very rapidly and a number of the plots apparently will be ready to harvest within the next few days. Winter rye is practically ripe, and winter wheat, spring wheat, and flax are beginning to turn color. Corn and sorgo have made an unusually rapid growth, but potatoes are starting to wilt.

All row crops and alleyways were cultivated during the week. Fallow plots were duckfooted, and the roads were duckfooted and dragged. Field peas were plowed under, and all green manure plots were double disked. Seed oats and all continuously cropped plots of small grain were rogued.

Maximum temperature 96; minimum 50; precipitation, .03 inch.

AKRON:

The week has been hot and dry, temperatures ranging from 90 to 100 practically every day. Small grains continue to suffer under the trying conditions, but corn, sorghum, millet, and beans are making gratifying progress.

Akron, continued:

The work of the week has been the thinning of the corn variety experiment to uniform stands, the cultivation of the rotation fallow plots, the cereal fallow strip, and the forage fallow strip, the roguing of small grains, the cultivating of alley-ways and roadways, the placing of plot identification stakes, the rotary hoeing of the general forage variety row crops, the cultivating of the rotation corn plots, the seeding of the July 1 date tests of beans and grain millets, etc.

The grain millet variety experiment and the rate of seeding grain millet experiment, seeded June 23, have emerged to very satisfactory stands. The Rosen rye bordering the winter wheat variety experiment was harvested to-day, July 5, as was the spring rye in the general forage variety experiment, the latter for hay purposes. The harvesting of the small grains promises to be a very important part of the next week's work program, and the station work is in excellent condition for devoting major attention to this work. For the first time in many years the winter wheat is ripening ahead of the barley.

June passed with only one consequential shower and with a total rainfall of only 1.61 inches, as against a 21-year average of 2.43 inches. This June drought has been very instrumental in cutting down very excellent June 1 small grain prospects. Prospects now are that we will harvest and thresh average or only little better than average yields of the small grains. In the winter wheat variety experiment the extremely early sorts, such as Early Blackhull and the Kanred-Prelude hybrid, look decidedly better than such standard sorts as Kanred and Nebraska 60.

Black stem rust has made its appearance on later seedings and on the more susceptible varieties during the past week. The "Green Bug" menace seems to be abating with a very marked increase in the lady beetle population. Striped flea beetles are damaging the beans to some extent, but the beans continue to make progress towards maturity.

Dr. Karl S. Quisenberry and Dr. D. W. Robertson were station visitors during the week.

Maximum temperature 100; minimum 49; precipitation, none.

COLBY:

This has been a hot, dry week. Harvest on the station has continued throughout the week. The winter wheat and barley on the D.L.A. project are in the shock. The oats are about ready to cut. The spring wheat is wilting and drying rapidly. While the yields of winter wheat and barley will not be as high as indicated earlier, on account of lodging and premature ripening, high yields will be secured. The wheat grains are shriveled some.

Harvest throughout this section has begun and will be in full swing with combines the first of the week.

Professors Throckmorton, Parker, and Timmons, of the Kansas Agricultural College, Mr. Karl S. Quisenberry of the Office of Cereal Crops and Diseases, and Mr. Nordahl L. Wallem, of Berlin, Germany, were among the station visitors during the week.

Maximum temperature 103; minimum 61; precipitation, .07 inch.
Precipitation for June, 3.29 inches.

GARDEN CITY:

The past week was one of high temperatures and wind velocity above normal. Ground is getting dry and some row crops are showing a shortage of moisture. Corn is curling and is beginning to need moisture badly.

Two lister planted seed-bed plots in milo are total failures. The extreme heat and high winds burned the young plants before they could get secondary roots established. The plots were planted to feterita in order to get some type of growth which would exhaust the subsoil moisture. To date the feterita is not even germinated.

Most of the work the past week has been on odd jobs about the project. Stakes are being stenciled with the rotation numbers, the rotation and the average yields, and placed on the project as a permanent type of marker. Visitors frequently go over the project and unless there is some such type of marker they have no idea of the kind of work before them.

Maximum temperature 105; minimum 62; precipitation, .25 inch.

TUCUMCARI:

Work the past week has consisted chiefly of plot thinning, although a considerable acreage has been cultivated and the balance of the old sweet clover land plowed. Drilling of the latter to sorgo cannot be performed until rain is received. Thinning of sorghums has been somewhat faster than usual, for plants were small and very few broke off. The work has been at about the rate of six plots per man per day.

Some combining has occurred over the county, grain being very low in yield. Farmers in some localities are still planting milo and beans.

A maximum temperature of 106 was reached Sunday, June 29. This figure has been equalled twice, and in 1918 a maximum of 108 was reached here. Minimum 57; precipitation, .17 inch. Wind velocity, 6.8 miles per hour; evaporation, 2.631 inches. Precipitation to date this year, 4.67 inches, or 3.35 inches below the long-time average.

DALHART:

Weather conditions remained favorable for field work during the week. Cultivating, harrowing and thinning were the field jobs during the week. There still remains several days thinning, but the station work is in better shape than at any time since June 1.

Oats and barley were harvested to-day, July 5. The oats were barely ripe, while the barley had been ripe enough for several days.

Stands on the later plantings are going to be uneven in the row, but, on the whole, comparable stands are going to be obtained.

Combining of wheat is going ahead in full force in this section now. Yields are running lower than last season but the test weight is, for the greater part, above 60 pounds.

Dalhart, continued:

Grass is drying quite badly in spots. The sorghums and corn roll very decidedly in the middle of the day. This is in spite of the recorded rainfall of 5.58 inches for June. Most of this precipitation was in the form of torrential rains so that the run-off was very great. The normal rainfall for June for a 25-year average is 3.14 inches.

Mr. H. J. Clemmer, of the Southern Great Plains Field Station, Woodward, Oklahoma, visited the station this afternoon.
Maximum temperature 105; minimum 57; precipitation, .58 inch.
Wind velocity, 7.3 miles per hour; evaporation, 2.620 inches.

LAWTON:

Temperatures were moderated by a rain of .57 inch on July 1. The heat, however, has been oppressive at times due to the low wind velocity. The total June precipitation of 2.47 inches was 1.24 inches below normal.

Harvest of small grain crops throughout the county is completed. Oats yields are average and in a good many instances much higher. Wheat yields range from 2 to 11 bushels per acre. Yields of 2 to 5 bushels per acre are representative of the 1930 production, the 11 bushel yields being quite scarce.

Threshing of station plots started July 5. The grain is very inferior in quality and the yields are low. About 200 bushels of oats were threshed earlier in the week.

Cotton is growing satisfactorily and some squares are forming. The crop as a whole throughout the county is about three weeks late. Chopping is pretty well completed and most fields are reasonably clean.

Chinch bug damage to sorghum crops is rapidly increasing. The second brood has been emerging for several days, and there is practically no chance for late planted crops to survive the injury. Damage to sorghums that are already booting will be very heavy.

Lawton, continued:

Although corn has benefited greatly by reduced temperatures and local showers the past week, yields were seriously reduced by the hot winds the last week in June.

HUNTLEY:

Following the rain of a week ago the stands of row crops have increased, and, while not yet complete, enough seed has germinated and come up to make the rows discernible for cultivation. Winter wheat in the variety test is turning and will soon be ready for the binder. This is about the only winter wheat remaining on the dry-land fields, the other plots of winter wheat either have succumbed to drought or have been replanted to spring wheat.

Field work has consisted of cultivating row crops and fallow, plowing under sweet clover and peas in the green manure rotations, and plowing the "O" plots in the methods of fallow experiments. All plots plowed were very dry and broke up in a cloddy condition.

Maximum temperature 95; minimum 45; precipitation, none.

ARDMORE:

The week was the hottest of the season, and there was no rain. On three days the temperature reached 100 degrees.

Grain crops are still holding out fairly well, though practically all leaves are now dead. Flax, which had not fired noticeably before this week, is in bad condition. The flax on sod is practically dead, and the varieties are burning badly. A few plots on corn ground are still in condition to recover to some extent if rain comes soon.

Ardmore, continued:

Harvesting commenced on July 2. All of the barley except the late varieties are now harvested. Fair yields will be secured on all methods of cultivation. Harvesting of oats in fields and plots was commenced on July 5. Fair yields of oats will be secured on corn ground and fallow.

Hat Creek has almost stopped running and the water situation at the farm will become serious if rain is not received soon.

The gains of the steers on pasture during the first two periods is as follows:

Pasture	Gain May 22 to June 1	June Gain	Total Gain
80 acre	2.9	88.5	91.4
150 acre	24.4	88.0	112.4
160 acre rotation	8.9	91.9	100.8
Reserve	15.5	98.8	114.3

The pastures are now practically burned up and the gains that will be made during July will be made on the cured grass.

Maximum temperature 102; minimum 47; precipitation, Trace. The total rainfall for June was 1.21 inches, the lowest June rainfall on record. The deficiency for the year to date is 2.34 inches.

HAYS:

Harvesting of small grains has been in progress more than a week. Combining of winter wheat plots was finished about 9 p.m. to-day, July 5. Yields of winter wheat varied widely, ranging from 1.2 bushels to 48 bushels per acre. The yields averaged much above normal, however, as not more than half a dozen plots yielded less than 10 bushels, while 81 plots reached or exceeded the 40 bushels mark. 30 bushels were very common.

Hays, continued:

Barley and oats are still in the shock, and spring wheat will be ready to harvest by Monday, July 7.

Corn and sorghum crops are making satisfactory growth, but they are beginning to wilt during the heat of the day. A little rain would be quite acceptable to these crops.

Some early tillage of stubble land for wheat has been done. The ground turns in nice condition.

It has been a fine harvest, with no rain during the period to interfere with the work. The temperature has generally run high, the maximum for the week being 103 and the minimum 58.

WOODWARD:

Over the past week threshing of all rotation wheat plots was completed, and a large amount of cultivation was accomplished on the sorghum crops. Hedges were trimmed, weeds were mowed, and considerable hoeing was done. The station generally was cleaned up and made ship shape.

The efforts of farmers over the country were largely devoted to the last of the wheat harvest. In some cases preparation of land for wheat was started directly after the combine, but this practice is not general.

Maximum temperature 104; minimum 59; precipitation, .26 inch.

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JUL 12 1930

REPORT FOR THE WEEK ENDING JULY 12, 1930.

HAVRE:

Temperatures were very high during the first part of the past week, the maximum for six days being above 90 with 104 on Tuesday, July 8. With a minimum of only 75 on Tuesday, the mean temperature for that day was the highest on record for this station. During the first part of the week, nights were unusually warm. On Thursday night there was a shower amounting to .56 inch and since that time the temperatures have been lower.

This rain will aid crops that are not already gone. Fallow is the only method that will show yields of over five bushels. Oats on fallow looks especially good this year as compared with other small grains. Flax is making pretty fair progress and may ripen before weeds make a growth large enough to interfere with harvesting.

Corn is doing especially well. While it rolled up severely on some of the warm days, it has not been injured. Some of the early seeding is just about ready to tassel, while some of the real early varieties are tasseled.

Harvesting will start on some of the early grains on the rotations in about a week.

The storm over this section of the state was somewhat localized. The mountain sections to the south received a very heavy rain, probably two inches or more. At Chinook, 30 miles east of here, 1.50 inches was recorded, while about 30 miles west of the station there was practically no rain. This shower will help grains to a certain extent in many localities and will greatly increase the yields of grain hay. Hay crops from native grasses and alfalfa are unusually short over this section of the state. The yield of alfalfa, even under irrigation, was very light for the first cutting.

Maximum temperature 104; minimum 58; precipitation, .56 inch.
Daily evaporation, .295 inch.

JUDITH BASIN:

Small grain crops showed considerable improvement since the showers July 2 and 3. With additional moisture in the next few days spring seeded small grain will return fair yields.

Very high temperatures prevailed over this section of the country during the middle of the week. Cool, cloudy weather, with occasional showers the latter part of the week, has relieved this condition.

Work on the station consisted of cultivation of fallow, hoeing weeds, roguing increase fields of pure seed, and cleaning up shelter-belts.

Maximum temperature 97; minimum 56; precipitation, .23 inch.

HUNTLEY:

On four of the past seven days the maximum temperatures reached 100 or above, the highest being 105. Two rains, one of a torrential character, were received during this period. The moisture received will be of help to grass, corn and bean crops, but practically everything else on the dry-land in this locality is past recovery. A few plots of spring wheat on the experimental fields may yet make enough growth to warrant cutting.

Field work of the past week has consisted of duckfooting roads, hoeing row crops and harvesting the winter wheat varieties. Most of the winter wheat varieties were too short to bind, although a binder was used to cut the crop, the loose material being gathered into piles. Because of thin stands, light yields, and the weedy condition of the fields much of the winter wheat in the vicinity of the station will not be harvested this year.

Maximum temperature 105; minimum 59; precipitation, .88 inch.

SHERIDAN:

The warmest weather of the season was experienced from the 5th to the 9th, with temperatures of 100 degrees or over for each day of the period. The condition of crops deteriorated rapidly. Some of the early seeded spring grain and winter wheat ripened up fast, while much of the other grain was burned so that rain now will be of little or no benefit to it. Corn continued to straighten out at night, and now with cooler weather still seems to be in good condition.

Winter rye, the earliest date of seeding with barley, barley in the rotations, and a seed block of Gopher oats were harvested. Some second growth alfalfa on the ends of plots and in the ravines was cut yesterday.

A light shower occurred last evening and a light rain is falling to-day, July 12.

Mr. T. R. Stanton visited the station on the 7th.
Maximum temperature 105; minimum 58; precipitation, .09 inch.

MANDAN:

Agronomy

The past week has been favorable for all field work, but has been very hot on several days.

All corn was given the third cultivation during the week. Other row crops were also cultivated. Fallow in field P was worked with the duckfoot.

Winter rye was harvested during the week. The yield will be light as it was damaged by dry weather early in June. High wind at the time the crop was in bloom damaged it also.

A very heavy rain fell on the afternoon of the 7th when 1.36 inches of rain fell in about 30 minutes. A good deal of soil washing took place in both fields, with the most in the south field.

Mandan, continued:

Agronomy, continued.

Some hail fell but the damage was light at the station, but some grain heads were cut off. Crops were completely wiped out a few miles from the station. A good deal of damage was done by high wind in some areas.

The weather has cooled off a great deal to-day, July 12.

The rain helped the crops, but some of them were dried up badly and will not recover enough to make a normal crop.
Maximum temperature 100; minimum 56; precipitation, 1.37 inches.

Cooperative Grazing Experiment

Grass was helped to some extent by the rain, but the pastures do not look as good as they did some time ago. Some grasses have reached maturity so that the prairie looks brown.

Cattle appear to be doing well but flies and hot weather kept them from grazing as much as usual.

Arboriculture

Mr. Ernest J. George and Mr. Archie Murchie left on Monday, July 7, for their long inspection trip. Mr. George will inspect the trees and conditions throughout South Dakota and Wyoming, Mr. Murchie will inspect North Dakota and eastern Montana, and Mr. Olson will inspect the northern and central parts of Montana. The reports received thus far from the inspectors show that the shelterbelts are fine as a whole, although the country is very dry. The work here at the station the past week has been confined to hoeing and cultivating the nursery stock and picking caragana seed. The nursery is looking better since the heavy rain which we had on Monday, July 7.

Mandan, continued:

Horticulture

Red currants and juneberries are ripe and are being picked. There is a good yield of both of fair quality. Gooseberries, black currants, and Prunus tomentosa are ripening up rapidly. If P. tomentosa had better cooking qualities, it would appear to be a valuable fruit plant for this section. It makes a fair sauce but mashes badly in pitting, also it contains very little pectin and is worthless for jelly without the addition of other pectins. The currant fruit fly is in evidence again this year, although not so much as in previous years.

Vegetables are making a rapid growth after the recent storm. Those in season at the present time are, peas, beets, turnips, carrots, kohlrobi, radishes and lettuce. The recent hail caused damage to tomatoes especially, breaking off tops and bruising the fruit so that soft rot set in. There was also some damage from hail to currants and cherries. Plums and apples were bruised and some of the crop knocked off, but are now apparently recovering nicely.

All fields are being cultivated again, followed by hand hoeing. After the recent moisture followed by hot weather, the weeds are growing apace.

The hedges in the testing block were sheared again during the week, having made considerable new growth.

Gypsophila, Delphinium, and Coreopsis, are making a brave showing in the perennial border, otherwise the grounds are almost without bloom at the present time. Sorbaria sorbifolia, Spiraea rosea and Golden elder are the only shrubs in bloom.

The following official visitors were at the station: Mr. A. L. Baker, Assistant in Animal Husbandry, Miles City Grazing Station; Dr. R. R. Renne, Economist, Montana State College, and Mr. Clarence Plath, Superintendent, Hettinger Sub-Station, North Dakota.

BELLE FOURCHE:

The weather has been unusually hot throughout most of the week, and strong winds have been of quite general occurrence during the daytime. The maximum temperatures for the first six days ranged from 96 to 105, and a temperature of 100 or more was registered on three consecutive days. Rain and accompanying cool weather the last of the week have afforded a much needed relief from the drought and excessive heat. A total of .36 inch precipitation was received Friday night, and it has been raining almost continuously to-day, July 12.

The hot, dry weather has caused a very rapid ripening, or drying, of small grain, and practically all flax, oats, barley, and winter rye have been harvested. A few plots of winter wheat have also been cut. The premature ripening has caused the grain to be light, but average yields of these crops should be obtained. Spring wheat is turning color but the yields of wheat will be below normal. Foot rot disease is much more prevalent in the spring wheat than last year, over 50 per cent of the plants on some of the plots being completely blighted. Corn has been curling badly, and potatoes have burned almost beyond recovery. Sorgo has made a good growth and is about 10 inches high.

Field work has been devoted to harvesting operations, hoeing alleyways and corn, thinning sorgo, roguing grain plots, and distributing grasshopper bait.

Visitors during the week were Mr. T. R. Stanton and Mr. A. C. Dillman, of the Office of Cereal Crops and Diseases.
Maximum temperature 105; minimum 58; precipitation, .36 inch.

ARDMORE:

The week was the hottest on record at the station. The maximum temperatures for the week were as follows: 104, 101, 105, 107, 103, 102, and 96. Never before since records have been kept at the station have temperatures of over 100 occurred on more than three successive days. The temperature of 107 is the highest ever recorded at the station.

Ardmore, continued:

Corn suffered badly from drought during the week, but did not fire noticeably. It is tasselling out very short. Grain crops continued to fire badly. All oats and barley are now harvested and wheat will be ready to cut early next week. Very light yields of wheat are expected.

The only precipitation during the week was a shower of .06 inch on the night of July 11. To-day, July 12, is fairly cool and the hot wave appears to be at an end.

Messrs. T. R. Stanton and Karl S. Quisenberry, of the Office of Cereal Crops and Diseases, visited the station during the week.

The annual farm picnic was held on July 10. The hot weather and general comition of depression due to poor crops resulted in a much smaller attendance than usual.

Minimum temperature for the week, 60.

ARCHER: (Report for the Week ending July 5, 1930.)

The weather has been hot and dry. Gusts of hot wind, lasting for several hours at a time, have been frequent. The total precipitation from June 1 to date is .18 inch. This was distributed in a number of light showers.

Small cereals, except winter wheat, are burning badly while the corn and sunflowers continue to grow. Acme wheat that is fully headed is about 18 inches high. The same is true of Horn barley in the dairy field. Some of the varieties of spring cereals are heading but are very short of growth. The soil is dried to such an extent that the proper working of some of the fallow land has been impossible. In spots the roadways have become so hard that the usual cleaning is not possible.

Archer, continued:

Work at the station has consisted of the cultivation of corn and sunflowers in the dairy field and the cultivation of corn in the experimental field. The perennial hay crop plots have been cut and the last of these crops are being hauled and weighed to-day, July 5. The hoeing of weeds is in progress.

Professor Clyde McKee, of Bozeman, Montana, was a station visitor July 3.

Maximum temperature 95; minimum 44; precipitation, none.

ARCHER:

The weather continued dry and warm until the afternoon of July 11. On that date local showers became general and the weather became cooler. However, the station received only .04 inch of precipitation. This makes a total of .22 inch of precipitation for June and the first eleven days of July.

During this period the temperatures have been high with low humidity. At times these conditions were accompanied by hot winds of a few hours duration. The maximum temperature for the first eleven days of July was 92 degrees which is quite severe at this altitude. The minimum temperature was 48 degrees.

All spring seeded small cereals have suffered severely. Corn began to roll at the beginning of the week. Other row crops show the pinched condition common to drought. The trees and shrubs still appear quite bright, but yellow leaves are beginning to appear. The prairie grasses are quite dry and crunch under the feet.

Work at the station has consisted of weeding with cultivators and hoes, and the final cleaning of alleys and roadways. A new mower was bought and the cutting of grain hay is in progress.

On July 10 the annual Farmers' Day was held. Ninety-three cars were parked in the yard and it is estimated that about 330 people were present. Most of these inspected the experimental field. Active interest was shown in the new methods of tillage for spring crops and the various phases of winter wheat production.

Archer, continued:

Dean J. A. Hill, Director W. L. Quayle, and Dr. A. F. Vass, of the University of Wyoming, Mr. Karl Quisenberry, Mr. J. A. Holden, Mr. J. H. Brandon and Mr. D. J. Coffman, of the U. S. Department of Agriculture, Professor Alvin Kezer and Mr. W. D. Robertson, of the Colorado Agricultural College, and County Agents E. O. Johnson and H. H. Simpson were station visitors.

AKRON:

The hot weather takes precedent over other important developments of the past week. The maximum has been above 90 each consecutive day during the past eleven days, and above 95 each consecutive day during the past ten days with an absolute maximum of 100 on July 3. This prolonged hot, dry spell has caused small grains to ripen rapidly, while row crops apparently fortified by stored moisture have made the most rapid progress towards maturity of any period during the present season. Corn now stands about midway between knee and waist.

Harvesting has held attention during the week and by this week-end it appears that hardly a dent has been made in the entire harvesting program. Nursery harvesting is within about two days of being completed and this will release men enough to run two binders in the field. With decent weather for field work next week-end should not see so much ripe grain still standing as this week-end witnessed. Projects harvested other than the cereal nursery were the hog pasture rye field, the two sheep rotation wheat fields, the winter wheat variety experiment, and the rate and date winter wheat experiment down to the October 1 seeding date.

This is the first time in many years that the winter wheat has been harvested ahead of the barley. This may be accounted for by the relatively late seeding date of the rotation barley plots this year. However, by this week-end all the barley appears to be ready for the binder, and there are still the rotation winter wheat plots to be harvested. It now looks very much like the oats would be ready before the barley has been harvested.

Akron, continued:

Visitors during the week were: Mr. I. G. Kinghorn, in Charge, and Mr. Art Robinson, of the College News Service; Mr. Grant Eddy, College Photographer, and Mr. F. A. Coffman, of the Cereal Office.

Maximum temperature 99; minimum 55; precipitation, none.

NORTH PLATTE: (Report for the 2 Weeks ending July 12, 1930.)

The past two weeks here have been entirely without rain. Temperature and wind movement have been high. On account of subsoil moisture stored from the excess rain of May and June, crops are not as yet suffering very greatly. Corn is rolling somewhat in the afternoons and some of the small grains are ripening prematurely.

Harvest was begun on July 5 and has been continuous since that time. All winter wheats have been harvested except one series of varieties on summer tilled land. The straw crop is among the heaviest ever harvested at the station. Much of it was badly lodged and the grain not perfectly filled. Oats and spring wheat will be ready for harvest early next week. If dry weather continues, threshing will be under way by July 20.

COLBY:

The harvest on the station was completed Friday, July 11. The spring wheat was the last of the small grains to ripen. It dried up rather than ripened. The straw, while dry, still has the green color and the grains are shriveled.

Corn was given its second cultivation and all but the listed sorghums were given their first cultivation during the week. It has not rained since the listed sorghums were planted. The ground was so loose that the guide wheels of the cultivator rolled the dirt and covered up the plants so badly that it was impossible to cultivate them. The milo is now being thinned.

Colby, continued:

No rain has fallen during the week and the heat continues unabated. Harvest in the vicinity is in full swing. The wheat yields range between 10 and 35 bushels, with now and then a 40 bushels yield reported. The average will be between 15 and 20. The wheat is all of a high quality, testing at or near 60 pounds in weight and above the average in protein, although there is not the exceptionally high percentage that there was in some cases last year. As no attention is paid to the protein content by the buyers, the farmers are not patronizing the protein laboratory very much.

Barley is yielding from 15 to 40 bushels of fairly heavy grain.

Maximum temperature 103; minimum 61.

GARDEN CITY:

Weather has been hot and dry. Row crops are beginning to show lack of available moisture on some plots.

Threshing will start next week on the dry-land project. Fallows were rod weeded on the 7th. Weed growth had started and many small thistles were killed. Work consisting of hoeing alley-ways and trimming up roadways was done to-day, July 12.

Practically all of the wheat acreage has been combined in surrounding communities. Most of the farmers are storing their wheat or piling it on the ground for better prices.

Five of the past seven days have been 100 degrees or over.

Maximum temperature 105; minimum 64; precipitation, none.

TUCUMCARI:

Work the past week has consisted of thinning plots, and cultivating plots and increase. Thinning is completed with the exception of some half dozen late plots. The weather has been moderately hot and without precipitation, a total of .22 inch having been received in the past four weeks.

Tucumcari, continued:

All crops are late and small, but seem to be growing normally. Very soon their condition will be critical unless considerable moisture falls.

Farmers on the plains are completing row crop planting, attempting to keep a very large acreage on which wheat killed out reasonably clean for wheat seeding this fall, and harvesting a very insignificant wheat crop. The wheat harvested will no doubt be sufficient for seeding the normal county acreage the coming fall.

Maximum temperature 96; minimum 62; precipitation, 1930 to date, 4.67 inches. Wind velocity, 5.0 miles per hour. Evaporation, 2.233 inches.

DALHART:

Weather continued dry and hot but with a low wind velocity during the week. This was one of those weeks when the temperature seems hotter than it really is. The absence of wind almost gives a shortage of water but evaporation is kept at a low point.

All small grain plots were threshed during the week. This permitted plowing of all early fall plowed plots and working of some fallows that were starting to get weedy.

Yields of wheat on seed-bed preparations ranged from 4.2 bushels to the acre on late fall plowed to 20.7 bushels on fallow, with B yielding 15.7 bushels, F yielding 9.5 bushels, and the disked plot 10.0 bushels to the acre. The quality of the wheat was excellent with the test at the machine being 62 pounds or slightly more. Winter wheat varieties on fallow yielded as next given: Turkey 36.3 bushels, Kanred 33.6 bushels, Blackhull 31.3 bushels, and Tenmarq 29.6 bushels. The red Turkey wheat tested from 62 to 63, and the others from 60 to 62 pounds. Wheat planted with the semi-furrow drill yielded 34.8 bushels, in 18-inch rows 31.6 bushels, and with the common drill 31.3 bushels.

Dalhart, continued:

Yields of rye were: MC- A, 0.9 bushels; B, 12.0 bushels; C, 17.0 bushels; while the rotations yielded from 6.4 bushels to 17.9 bushels to the acre. Yields of oats were: MC- B, 10.6 bushels; C, 23.8 bushels; with the rotation plots failures. Barley on cropped land yielded approximately 3.0 bushels per acre.

Thinning of sorghums was completed except for the last date of the varieties. These could have been thinned but thinning was delayed until the first of the week because of delayed emergence.

It was necessary to spray for red spider to-day, July 12. Maximum temperature 96; minimum 60; precipitation, trace. Wind velocity, 5.5 miles per hour; evaporation, 2.742 inches.

BIG SPRING: (Report for the Week ending July 5, 1930.)

Weather conditions have remained hot and dry during the past week. Although the soil is getting rather dry, most crops are making a very satisfactory growth. The only indications of dry weather injury are noticed in the first dates of seeding of sumac and Sudan grass. The first date of seeding sumac is starting to roll, while the first two dates of Sudan grass are burning considerably.

The last date of seeding of grain and forage sorghums, which was made on June 28, has emerged to good stands, but the cotton planted on this date is emerging to a very irregular stand.

Station work this week has consisted almost entirely of thinning plots and cultivating. With the exception of some of the late dates, plot thinning will be completed to-day, July 5. Maximum temperature 103; minimum 70; precipitation, none.

BIG SPRING:

Weather conditions during the past week have remained about the same as those of the previous week, which was hot and dry.

With the exception of the first two dates of sumac and Sudan grass all crops are making a good growth, and have not as yet suffered from dry weather.

Except for the last date of planting, thinning of all plots and increase fields have been completed; second cultivation of everything was also completed this week. Other work has consisted of going over the plots and hoeing out all stray weeds which the cultivators had missed.

Maximum temperature 98; minimum 65; precipitation, none.

LAWTON:

Another week of hot, dry weather and a continued increase of chinch bug damage has not been at all favorable to the growth of sorghum crops. Feed crops throughout the county are suffering in the same respect as station crops.

Threshing of small grains was completed July 9. Twenty-four rotation plots of wheat that have been cleaned to date range in yield from 1.7 to 9.5 bushels per acre. The average for this lot of plots is 5.6 bushels per acre. The weight per bushel varies from 50 to 56 pounds.

Stubble plots that will be seeded to wheat were plowed July 11. The ground is hard and dry and the plowed surface is very lumpy.

The second cutting of alfalfa in Rotation 142 yielded 550 lbs. and 500 lbs. of cured hay per acre from the rowed and from the drilled plots, respectively. This cutting was made July 5. Sweet clover plots that were seeded in the spring are now very grassy and weedy. These plots are not in a very good position to survive a hot, dry summer.

Lawton, continued:

Cotton is in a vigorous growing condition. Squares are forming and a few blooms are present. Termites are doing a little damage, but injury of significant importance is not expected. The termites bore in on the tap root and tunnel upward to a point just under the surface of the ground. The plant wilts very quickly following such action.

Corn on the station plots is withstanding the summer temperatures and winds a little better than was expected. Many fields throughout the county are badly burned. One creek bottom field of corn near Lawton is being put in the silo.

Cowpeas and soybeans look vigorous and thrifty. Jack rabbits have done a little more damage to the soybeans than usual.

The Comanche County Farm Advisory Board held one of their quarterly meetings at the station July 11. Forty farmers were in attendance and listened to a program of current farm topics.

Maximum temperatures of 100 were recorded twice during the week.

WOODWARD:

Aside from construction, the work of the week has consisted almost entirely of cultivation, hoeing and thinning of the sorghums. There is a tremendous difference in the number of weeds and kinds of weeds in the old part of the station, kept cleanly cultivated for fourteen years, and the newly acquired land which has been indifferently farmed for thirty years. The weeds on the latter would have quickly overcome the crops had not an excessive amount of cultivation been done.

Temperatures have been very high and crops are wilting badly for want of moisture in the surface soil.

Maximum temperature 101; minimum 67; precipitation, none.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 19 1930

REPORT FOR THE WEEK ENDING JULY 19, 1930.

HAVRE:

Aside from two days, temperatures were not as high the past week as they were the previous week but there was only one shower of .01 inch.

Small grains are rapidly reaching harvest stage, many of them drying rather than ripening normally. Some of the winter wheat and oats were harvested during the week. Corn is rolling during the day time, but is not seriously injured as yet. Some of the plots are beginning to show tassel.

The boys' and girls' 4-H Club Camp for this district was held on the station beginning on the 13th. 102 club members and leaders were present. This is followed by the Mothers' Camp, with 21 members enrolled.

Visitors during the week included Superintendent Norton, of the Moccasin Station, Mr. B. B. Bayles, Mr. Joseph Sutherland and Dr. Fellows, all of the Office of Cereal Crops and Diseases. Also Mr. Tower, of Moccasin, and Dr. Young, of the Plant Pathology Department of the Montana Experiment Station.

Maximum temperature 97; minimum 47; precipitation, .01 inch.

JUDITH BASIN:

The weather during the past week continued hot and dry. Small grains are ripening rapidly and winter wheat will be ready for the combine in about a week. An increase field of Karmont winter wheat on the station is being harvested with a binder to-day, July 19. Indications are that winter wheat over this section in the Judith Basin will average about half a normal crop, while the yields of spring grain will probably be somewhat less.

Much of the work at the station this week has been in preparation for the Judith Basin Farmers' Picnic which will be held at the station on July 24. This is an annual event and last year was attended by over 5,000 people.

Judith Basin, continued:

Visitors at the station during the week were Dr. Hurley Fellows, of Manhattan, Kansas, and Dr. P. A. Young, of the Montana Experiment Station.

Maximum temperature 95; minimum 46; precipitation, .10 inch.

HUNTLEY:

The past week has been somewhat cooler than was the week previous. Part of every day has been cloudy and several sprinkles of rain were received. Beans, sorgos, and corn continue to emerge following the rainfall of last week, and alfalfa has made a new growth on plots that had made no start since they were cut.

The few plots of spring grains that have survived the drought and made enough growth to harvest are about ripe and should be ready for cutting next week. Neighboring farmers who have any dry-land crops left are beginning to harvest. The grain is all extremely short and in most cases will necessitate the use of combines, although the presence of green weeds in the fields will make this method of harvesting difficult and is likely to impair the quality of the grain in storage.

Field work has consisted of cultivating fallow and green manure plots that plowed up in cloddy condition two weeks ago, the recent rains having wet the soil enough to make it workable.

Station visitors during the week included Dr. W. A. Taylor, of the Bureau of Plant Industry.

Maximum temperature 97; minimum 50; precipitation, .17 inch.

SHERIDAN:

A light rain occurred on the 12th followed by somewhat cooler weather than prevailed over the previous week, delaying for a short time the effect of the drought on corn and late forage crops. Small grain ripened fast during the week, much of it simply

Sheridan, continued:

drying ripe. Early seeded barley, oats, spring wheat, and the larger part of the oats and winter wheat in the rotations were harvested.

Pigs and sheep were weighed, and pigs let into the Sudan grass pastures.

Maximum temperature 99; minimum 45; precipitation, .45 inch.

DICKINSON:

Dry, hot weather has continued during July, drying out and prematurely ripening most crops.

Grains on fallow and green manure are holding up fairly well, and with cooler weather might make average yields, but on poorer methods of preparation the yields will be light. Some of the late seeded and weedy grain fields in the district are being cut for hay.

Corn is short but has developed well during the past two weeks.

Winter wheat and rye on the rotations were cut on July 19. Winter wheat and rye varieties and the winter wheat nursery were cut during the week. Yields of winter wheat probably will be better than spring wheat.

Bangalia field peas were cut July 19. Other varieties will be mature in a few days.

Mr. J. A. Clark and Mr. A. C. Dillman visited the station on July 14.

Maximum temperature 101; minimum 47; precipitation, .05 inch.

Precipitation to date in July, .06 inch.

MANDAN:

Agronomy

Most of the past week has been hot and dry. Small grain crops dried up badly and all yields have been greatly reduced. Some small grain on the poorer methods of tillage has been burned beyond recovery. Grain is starting to ripen and some wheat varieties will be ready to harvest the coming week. Corn curled on several days, but with rain the chances are good for some high yields.

All summer fallow plots were duckfooted during the week.

Crested wheat grass is being cut for seed to-day, July 19. Maximum temperature 102; minimum 47; precipitation, .05 inch.

Cooperative Grazing Experiment

All pastures dried up more during the week. Grass is now dry in the pastures and very little growth is taking place. Brome-grass has harded up a good deal and is not furnishing good grazing at present.

Arboriculture

Messrs. Ernest George, Archie Murchie, and Clarence Olson, the shelterbelt inspectors for this year, report that the plantings are looking good through northern South Dakota and Wyoming, and eastern Montana. Dry, hot weather seems to prevail throughout all the country covered so far.

Five hundred pounds of caragana seed have been picked from the station hedges during the past week, which will be used for seed next spring. The nurseries have been all cleaned of weeds, but are starting to show damage due to dry weather and hot winds. If the dry weather continues, it will probably be necessary to irrigate the young trees.

Mandan, continued:

Horticulture

Juneberries, red currants, and part of the gooseberries, were picked during the week. Fair to good yields were obtained. Red Dutch currants were the highest yielders in the variety test. Carrie, Houghton, and Sel. No. 26 gooseberries did well. Success was the best Juneberry.

Chinese cherries, gooseberries, and currants are now ripe in the breeding blocks, and selections are being made.

Bagging and pollinating has been in progress in the sweet corn breeding block throughout the week. Orchards and gardens have been cultivated and hoed.

The following official visitors were at the station during the week: Dr. W. A. Taylor, Chief, Bureau of Plant Industry, Mr. J. Allen Clark, and Mr. A. C. Dillman, Cereal Crops and Diseases, Washington, D. C., Dr. H. A. Rodenhiser, Plant Pathologist, University Farm, St. Paul, Minn., and Mr. Leroy Moomaw, Superintendent, Dickinson, North Dakota, Sub-Station.

BELLE FOURCHE:

The slow, drizzling rain of last week continued until Sunday morning, and a total of .82 inch precipitation was received. Cool weather prevailed for two days after the rain, but the remainder of the week was quite hot, the daily maximum temperatures ranging from 90 to 100.

The rain and cool weather afforded temporary relief to all crops, and permitted small grain to ripen more normally. Spring wheat has matured very rapidly during the last few days, however, and about half of the spring wheat plots have been cut. The remainder of the oats, flax, and winter wheat were also harvested.

Grasshoppers continue to be very numerous, despite control measures which have been attempted, and are beginning to do some damage to corn.

Belle Fourche, continued:

Visitors during the week were Mr. A. C. Dillman, Mr. J. A. Clark, and Mr. Karl S. Quisenberry, of the Office of Cereal Crops and Diseases, Mr. E. S. McFadden, of the Highmore Substation, Highmore, South Dakota, and Mr. S. H. Hastings, of the Office of Western Irrigation Agriculture.

The 16th Annual Farm Picnic was held at the station July 19. The usual crowd of about 2,000 people attended. Speakers for the occasion were State Secretary of Agriculture Frank D. Kriebs, Congressman William Williamson, and Mr. S. H. Hastings, of the Office of Western Irrigation Agriculture.

Maximum temperature 100; minimum 50; precipitation, .46 inch.

ARDMORE:

Temperatures for the week were somewhat cooler, with the maximum varying from 79 to 105.

Harvesting of small grain was completed during the week.

Approximately 35 acres of small grain were threshed. Oats yielded about 23 bushels per acre, and barley about 27 bushels per acre. The test weight per bushel was 27 pounds for oats and 49 pounds for barley.

Maximum temperature 105; minimum 50; precipitation, none.

ARCHER:

A decided change in temperature and a threatening change as to precipitation has taken place. During the week the maximum temperature was 89 degrees. The average maximum was 82, or 10 degrees less than last week. The minimum was 44 degrees. The total precipitation for the week was .51 inch. This occurred in four showers, the largest of which was .35 inch. This precipitation has done but little to aid crop growth.

Archer, continued:

Crop growth has been very slow. The winter wheat is about ready to harvest. The spring cereals have headed but have fired badly. Corn has continued to roll and a few stalks are showing the tassel. Potato vines are blooming but are only about 9 inches high. The beans have made but slight growth beyond the two-leaf stage.

Work at the station has consisted of weeding, cutting the wheat in the dairy field for hay, and the repair of wagons and water tank.

AKRON:

A good rain was received at the end of last week, which broke the run of high maximum temperatures previously reported. This rain was very timely for the row crops and late seeded sowed crops. The fore part of the past week was open and favorable, but showers have prevailed over the extreme late part of the week. Good progress was made with the harvesting, and with the row-crop cultivation and open-ground cultivation necessitated by the rather heavy rain of the fore part of the week.

The harvesting of the nursery was practically all completed Monday and Tuesday, July 14 and 15, while the ground was too soft for field implements. Thereafter the remaining of the rate and date winter wheat experiment, except the October 15th seeding, the rotation winter wheat and barley plots, and the sheep rotation barley fields were harvested. Other work consisted of plowing under and packing the green manure pea, sweet clover and sod plots, and Plot O of the M-F Series, the cultivation of the bulk of the row crops, the cultivation of roadways, and the hoeing of weeds.

Conditions are now very favorable for corn, beans, the sorghums, and the millets.

Maximum temperature 95; minimum 52; precipitation, 2.06 inches.

NORTH PLATTE:

Dry, hot weather continues. A rain of .39 inch on the evening of the 12th is all that has occurred during the month.

The moisture supply from earlier rains is still sufficient in corn ground so that rapid growth is still taking place. This growth is already too large for the crop to come through an extended drought period without severe injury.

Harvest which was begun on the D. L. A. project on the 5th was completed on the 16th. Barring unfavorable weather, threshing will be started on the 21st.

COLBY:

Following the rain of .59 inch on last Saturday night, lower temperatures prevailed for two days, but since then the weather has been dry and very hot. On Thursday, July 17, the maximum reached 104. the highest of the year so far. The thermometer stayed close to or above 100 almost all afternoon every day.

Thinning of the milo was finished this week. The milo and feterita listed plots were cultivated for the first time this week. Since the rain they are making fairly rapid growth and will soon be out of the ridges. The corn has been growing rapidly. The first tassels are beginning to show to-day.

The oats and barley plots were threshed to-day. In spite of the dry, hot weather at the time of ripening the oats made the best yields ever recorded at this station. They averaged better than 50 bushels per acre, and M C C, the highest yielding plot, made 78 bushels per acre. The quality was good also, the test weight ranging between 34 and 36 pounds. The barley yields were not quite as high as the oats, although the average will run close to 50 bushels. However, the maximum yield was only 54 bushels. The yield on this plot, M C C, was cut down by lodging, as the straw was flat on the ground when harvested.

Maximum temperature 104; minimum 53; precipitation, .59 inch.

GARDEN CITY:

Threshing was finished on the station the past week. Some very good yields of wheat were produced on some fallows. An average of the yields on fallow was more than double those of the continuous cropped plots. The highest yield on fallow was 45 bushels per acre. This was the Q plot in the MF series.

On the 13th, .66 inch of rain fell in a slow drizzle. The ground took every bit of it. The next day was cloudy. Very little evaporation took place. All row crops responded very much and by Thursday, July 17, it seemed that growth had almost doubled in the past 4 or 5 days. Thursday, Friday and Saturday of this week have been very hot and windy. Row crops are beginning to suffer again for lack of moisture.

Some plowing and listing for wheat and early preparation of fallows has been done the past week.
Maximum temperature 108; minimum 58; precipitation, .66 inch.

HAYS:

The week has been dry and hot. The maximum temperature was 110 by thermometers on the dry land project and 109 by the Weather Bureau thermometer. Minimum temperature was 58. The maximums have run over the 100 degrees mark several times.

Corn and sorghums, especially the former, have been wilting badly from drought and heat. Corn throughout the country that has reached the tassel stage is seriously damaged. On the dry land project, and the station as a whole, the corn has not commenced to tassel and it is believed there is still hopes for it to recover if rain comes soon. Sorghums will stand several days yet without serious damage.

All early tillage work on the project for wheat has been finished as is also the case on the commercial fields of the station.

Hays, continued:

The past week has been a good time for exterminating all the stray weeds and grass.

The field laboratory and contents on the dry land project was lost by fire July 15. Since then a frame grain bin has been moved to the project in which soil ovens will be installed to finish the season's work, or until the laboratory can be rebuilt.

TUCUMCARI:

Climatic conditions are steadily becoming worse, with ranges drying up and the small, late crops showing urgent need of moisture. Only .58 inch precipitation has been received the past month and the total for the year to date is 5.04 inches, compared with a 25-year average of 9.05 inches. Rather high wind movement with average temperatures, and resultant high evaporation, proved very severe on young crops.

During the week all thinning was completed, 10 acres of increase drilled sorgo land was prepared and drilled, and practically all crops have been cultivated. Mowing and hoeing of weeds along roads, fence lines, and station grounds have been performed.
Maximum temperature 99; minimum 59; precipitation, .37 inch.
Wind velocity, 6.5 miles per hour; evaporation, 2.637 inches.

DALHART:

The weather continued hot and dry during the week. Considering the character of the weather, the row crops are holding out remarkably well. The first date of planting of hegari and feterita are heading very short. The heads are of fair size; rather large for the height of the plants.

Rather low wind velocities have kept down evaporation. The scarcity of wind has kept down our supply of water so that it has not been possible to water young trees and shrubs as much as needed. The native grass is completely dried up.

Dalhart, continued:

Corn on the station has not started tasselling. This is a fortunate circumstance as corn tasselling now will quite likely not fill properly. All large corn and sorghum plants "roll" decidedly during the day.

Mr. J. R. Horton, Entomologist from Wichita, Kansas, visited the station to-day, July 19.

Maximum temperature 101; minimum 57; precipitation, trace.
Wind velocity, 6.7 miles per hour; evaporation, 2.753 inches.

BIG SPRING:

In spite of the fact that it has not rained here since June 14, and then only .60 inch, most all of the plots are making a very good growth. Although sorghums are starting to roll a little in the afternoons, they are small enough so that they will not be seriously injured for some little time yet. Cotton continues to make a good growth and maintains a good color. A few blossoms are starting to appear on the cotton.

The first date of seeding of milo, hegari, and feterita are in the dough stage of seed formation. Considerable time and ammunition have been spent on these plots in trying to protect them from bird injury.

The winter wheat plots were threshed during the week. Yields varied from failures to 3 bushels per acre. Other work has consisted of picking grapes, and hoeing weeds from plots and increase fields.

Maximum temperature 102; minimum 57; precipitation, none.

LAWTON:

No rain has fallen since July 1 and the damaging effects of high temperatures and hot winds on row crops and grasses are becoming serious. Sorghum crops, grasses and corn are badly burned.

Lawton, continued:

On the sandy soils in the eastern part of the county, crops are withstanding the drought much better than on the heavy soil in the remainder of the county.

Cotton is blooming very lightly so far and the plants are yet quite small. Kafir, listed on cotton ground, Rotation 134, was harvested July 19. The grain was partly in the milk stage, but the plants were too badly burned to permit further growth. Corn on fall plowed sorgo land was also harvested July 19. But few ears were formed and the plants too severely injured to permit further delay in harvest. Corn on continuous harvest will likely have to be harvested within a few days. Some of the plots are pretty well eared but the grain is yet soft. Broom corn, M.C.H. continuously cropped, spring plowed and top dressed with barn yard manure, was pulled July 19. A light crop of brush of fair quality was produced. Present indications are that this is the only plot that will head. The 1930 wheat yields were as follows:

Tillage	Previous crop	Bushels per acre
Late fall plowed shallow	Wheat	6.7
Early fall plowed	"	6.0
Early fall plowed and subsoiled	"	6.4
Listed	"	4.3
Listed and manured	"	2.5
Fallow		9.5
Fallow, topdressed		6.3
Fallow, manured		6.2
Fall plowed	Oats	7.0
Disked	Cowpeas	6.3
Disked and topdressed	Cowpeas	5.8
Green manured	Cowpeas	8.2
Drilled	Cotton	2.3
Drilled and topdressed	Cotton	3.3
Disked at seeding time	Wheat	3.8
Disked as needed	Wheat	5.0
Fall plowed	Barley	7.8

Maximum temperature 101.

WOODWARD:

The week's work consisted of cultivating and hoeing weeds out of row crops, threshing wheat, and continuing with construction work on new buildings.

The weather has remained hot and dry, and farmers over the country generally are complaining about the drought injuring crops and pastures.

Maximum temperature 105; minimum 54; precipitation, none.

WOODWARD:

The week's work included cultivating and hoeing weeds out of rice crops, already ripe, and continuing with construction work on new buildings.

The weather has remained hot and dry, and farmers over the country generally are complaining about the drying ripening rice and pastures.

Lantana for reserve 1Dc: minimum for stockplication, none.

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 26 1930

REPORT FOR THE WEEK ENDING JULY 26, 1930.

JUDITH BASIN:

The weather during the past week continued hot and dry. Spring seeded small grain deteriorated rapidly, especially that which was seeded on the poorer methods of seed-bed preparation. Corn on the rotations is beginning to show the effects of the dry weather. Harvest of winter wheat and oats in the rotations has been completed. The combining of winter wheat has been started and will become general over the Judith Basin within another week. Some spring wheat is being harvested for hay.

The twenty-first annual Judith Basin Farmers' Picnic was held at the station Thursday, July 24. A crowd of 3000 people was in attendance.

Maximum temperature 91; minimum 45; precipitation, .08 inch.

HUNTLEY:

Cooler weather has prevailed during the past week and crops have not wilted as badly during the warm part of the day as they did a week ago. Showers have been almost a daily occurrance throughout the territory surrounding the station, but no rain has fallen in this locality for sometime.

Beans, corn, potatoes, and sorgo have made a good growth during the last few days. Stands of beans are almost perfect now as the last rains were sufficient to germinate the remaining seed. The new plants have grown rapidly and are at present almost as large as the plants that came up earlier and whose growth was checked by drought.

Field work has consisted of harvesting the spring wheat varieties and the few plots of wheat remaining in the rotation experiments. Roads were again cultivated with the duckfoot as was also a two-acre plot of fallow. A light second cutting of alfalfa was harvested from some of the miscellaneous plantings.

Maximum temperature 95; minimum 46; precipitation, none.

SHERIDAN:

The weather still continues warm and dry. Corn still continues to uncurl at night, but the prospects of getting any corn are growing less each day. Sudan grass is still making a good growth.

Harvesting has been in progress throughout the week. The remainder of the winter wheat, oats, and barley were cut except for some late seedings of the latter two crops. Early seedings of spring wheat and a part of the varieties of spring wheat were cut also. Spring wheat in the rotations finally dried up during the week except for narrow borders around the edges of the plots. The most of the heads, except where affected by foot rot, contain some grain, but the most of it is badly shriveled.

Fallow in the rotations was cultivated with the duckfoot cultivator. A part of the miscellaneous fallow was harrowed and the remainder disked. No general weed growth had started on the fallow since plowing, but a few scattered weeds had made some growth.

Maximum temperature 95; minimum 46; precipitation, .22 inch.

DICKINSON:

Due to the continued hot, dry weather the small grains matured rapidly. All of the oats and barley plots on the rotations, and most of the wheat plots were harvested. Early varieties of each of these crops were also cut. Indications are that yields will be above those of 1929, and may be up to the station average, but will be much below the prospect of three weeks ago before the hot weather began.

Alfalfa is drying up so that a second crop will not be cut except from that grown in rows. A fair amount of seed has set on the first crop of the alfalfa varieties grown in rows, but only a small amount on the second crop.

Corn is showing considerable effect of the dry weather but could still make a good grain yield if rains should come later.

Dickinson, continued:

The field day for Seed Growers held on July 22 was poorly attended because of the early harvest.

Visitors during the week included Director P. F. Trowbridge, Dr. Herbert C. Hanson, Botanist, North Dakota Experiment Station, Superintendent C. H. Plath, Hettinger Substation, and Dr. E. G.Booth, Extension Agronomist, Dr. H. B. Humphrey, Principal Pathologist, Mr. R. W. Leukel, Associate Pathologist, Mr. J. Allen Clark, Senior Agronomist, Dr. Karl S. Quisenberry, Associate Agronomist, and Mr. V. C. Hubbard, Assistant Agronomist, Cereal Crops and Diseases, Bureau of Plant Industry, Mr. Ben U. Kienholtz, Agricultural Statistician, Bureau of Agricultural Economics, Grand Forks, North Dakota, Mr. H. R. Sumner, Executive Secretary, Northwestern Crop Improvement Association, Minneapolis, Minnesota, and Mr. George H. Will, of the Oscar H. Will and Co., Bismarck, North Dakota.

Maximum temperature 98; minimum 52; precipitation, .02 inch.

MANDAN:

Agronomy

The past week has been hot and dry. A good rain fell on the night of the 19th, which was of benefit to corn and late flax, but was of little value to grain which had already burned badly.

Harvest of small grain started in the rotations on the 25th. Some wheat on fallow will return a fair yield, but the yields on the poorer methods of tillage will be very light.

A good deal of wheat was cut around the country during the past week, and some has come to market. Yields of 7 to 10 bushels are reported with a weight per bushel of around 55 pounds.

Maximum temperature 97; minimum 55; precipitation, .98 inch.

Mandan, continued:

Cooperative Grazing Experiment

Pastures dried up more during the week. The smaller pastures are now in rather poor condition for grazing. Bromegrass is about all dried up. The cattle appear to be doing well. The rain at the pasture on the 19th amounted to only .35 inch compared with .93 at the station.

Arboriculture

The nurseries have been cultivated and weeded during the past week, and the cutting blocks have been hoed.

The shelter-belt inspectors are on schedule, and they report that the trees are looking fine except for a few dry places.

Horticulture

Picking of currants, gooseberries, and Chinese cherries, was continued throughout the week. Several selections of Golden currants, gooseberries and Chinese cherries have been made in the breeding blocks. All three of these fruits are doing well this year, in spite of the dry weather. Some gooseberries were cooked or scalded on the vines by the hot weather. The golden currants seem to be the least affected by the dryness and heat.

Orchards and potatoes have been hoed for the third time this summer.

Dr. H. B. Humphrey, of the Office of Cereal Crops and Diseases, visited the station on the 24th, and Dr. H. C. Hanson, who has recently been appointed Professor of Botany at the North Dakota Agricultural College, visited the station on July 24.

ARDMORE:

Two light showers were received the first part of the week. The amount of moisture received was not enough to be of much benefit to crops, but the accompanying cooler weather checked crop injury temporarily. The last part of the week was hot but no extremes were recorded.

It now appears likely that no ear corn will be produced. Corn has been tasselled for a week, but is so badly injured by drought that only a very small percentage of the stalks have produced or will produce silks. Sorgo is commencing to head at a height of about two feet. Potatoes are without doubt a complete failure.

Threshing was in progress throughout the week. Threshing of fields and plots was completed, and only the varieties remain to be threshed.

The yields of the fields of grain were as follows:

Crop	Area of Field Acres	Previous Crop	Yield	Weight per Bushel
Oats	13.00	Corn	22.7	28
"	10.00	"	25.1	25
"	1.34	"	30.8	28
"	1.34	Sorgo	27.8	27
Barley	12.00	Corn	33.0	49
"	10.00	Fallow	36.1	41
"	20.00	Corn	18.9	44
Wheat	1.34	"	11.9	57
"	1.34	Sorgo	11.4	58

Barley was much more productive than either wheat or oats. The ten acres of barley on fallow ripened during the extreme hot wave, which accounts for the low weight per bushel.

Ardmore, continued:

The yields of the different crops in the rotations were as follows: Oats, maximum 39.7, minimum 6.9, average 23.5; barley, maximum 39.4, minimum 13.1, average 23.7; winter wheat, maximum 22.0, minimum 5.0, average 12.7; spring wheat, maximum 18.3, minimum 2.2, average 10.2. The one plot of rye produced a yield of 15.2 bushels per acre. The average weight per bushel of all grains was below the legal weight, oats being especially poor. Barley most nearly approached the legal weight per bushel.

Maximum temperature 97; minimum 52; precipitation, .53 inch.

ARCHER:

The weather has been mild and dry, but threatening at times. Three showers totaling .30 inch occurred. The maximum temperature was 85 degrees and the minimum 46 degrees. The total precipitation for June was .18 inch, and the total to date in July is .85 inch.

The very dry weather is having telling effects on the crops. The spring cereals are burning badly, the corn is rolling and the sunflowers are wilting. The leaves of the beans and potatoes look pinched, due to drought. Due to local showers most of the region has received rain but the station is dry.

Work at the station has consisted of cleaning roadways, harvesting the varieties of winter wheat, first dates of seeding and all furrow drill seedings on the rotation and methods of seeding plots. Barley on the rotation plots has also been harvested. Another wagon has been worked over and made useful. Practically all of the small grain in the dairy field has been cut for hay. The cultivation of corn in the dairy field is in progress.

Dr. A. C. Hildreth, Superintendent of the U. S. Field Station at Cheyenne; Director W. L. Quayle, Messrs. W. S. Wiant, Plant Pathologist, and W. G. Solheim, Botanist of the University of Wyoming, and Mr. W. P. Snyder, Superintendent of the North Platte Station, were station visitors during the week.

AKRON:

Showers have prevailed tending to hold down the temperature but not interfering with field work. The week's total precipitation of .64 inch was made up from four different showers.

The cultivation of the orchards, the newly established pine windbreaks, the station roadways, and all open land not cultivated last week was accomplished. Harvesting also has been in progress with the result that all ripe grain is now in the shock. Projects remaining to be harvested are the very late oat varieties, the supplemental spring wheat variety experiment, and the date of seeding spring grains experiment.

The pastured fallow winter wheat field of sheep rotation 28 was threshed Friday afternoon. The yield was at the rate of 15.7 bushels per acre, a better yield than was estimated by the most of the station force.

Grain millets seeded June 23 are breaking into head.
Maximum temperature 91; minimum 47; precipitation, .64 inch.

COLBY:

A rain of .71 inch Thursday afternoon kept us from finishing the threshing this week, but kept the corn and feed crops growing nicely. Up to this time, the corn has not suffered much except from grasshoppers which have been fairly thick along the edges. Much of the corn is tasselling.

The plowing and listing of the early winter wheat seed-bed plots was done July 25 and 26. The moisture penetrated down about three inches, so that most of the ground turned up dry, and in some cases hard.
Maximum temperature 102; minimum 59; precipitation, .77 inch.

GARDEN CITY:

Weather the past week has been ideal for sorghums. All crops have made excellent growth. Temperatures have been normal to slightly low. The first half of the week was cloudy and frequent rains occurred.

Some of the early fall plowing was done on the project. Cultivation of row crops and cutting weeds out of alleyways, in the plots and roadways has been done.

Corn is beginning to tassel on some plots. Sorghums are not showing any heading as yet.

Rains of .50 inch, .36 inch, .38 inch, and .13 inch fell on four separate days. All of them came very slowly and no runoff occurred.

Maximum temperature 104; minimum 62; precipitation, 1.37 inches.

HAYS:

The past week has been one of high temperatures, frequent hot winds, and no moisture.

Corn is suffering extremely from drought and heat, and from what appears to be root rot. From 50 to 75 per cent of the corn on the dry land project has been damaged beyond recovery. It is coming into tassel.

Sorghums are standing by, but are in need of moisture. These crops, where planted in rows, are not yet damaged seriously, but the thick sown or broadcast seeding of sorghums and hay crops are burning considerably.

Field work consisted largely in weed killing, and road and drain ditch repairs.

TUCUMCARI:

Rains totaling 2.21 inches on the 21st. and 22nd. proved of immense relief, and at present agricultural conditions are the most promising in months. Late crops in the vicinity are responding rapidly and ranges are improving daily. The precipitation to date is now only slightly more than two inches short of the 25-year average for the period January 1 to July 26, and there is a good chance row crops will make fair yields with only reasonably favorable conditions.

A considerable acreage of station increase land drilled to sorgo is showing good stands, while late planted increase row crops are making good headway. Plots look unusually well, with very few exceptions. Milo plants, although not over 8 to 12 inches tall, are suckering more heavily than in the past several years.

In contrast to the revived appearance of the station, portions of the grounds present a most devastated look, for some 30 or 40 fifteen-year-old locust trees have been poisoned, preparatory to removal. The leaves have turned brown and the half-mature pods rattle lifelessly in every breeze.

Maximum temperature 98; minimum 58; precipitation, 2.21 inches.
Wind velocity, 4.9 miles per hour.

DALHART:

The worth while event of the week was the precipitation which was received on Monday and Tuesday nights, July 21 and 22. The precipitation was divided into three rains, rather torrential in character, which totaled 3.69 inches. Early planted corn was beginning to "fire" quite badly. Growth of the early seeded sorghums was checked before the rains. Heading of sorghums for the early seedings was not far enough along but what the rains will help them. All row crops are growing very rapidly now and have good color.

There had been two days' plantings where the seed did not all germinate. This is now apparently going to grow. The cowpeas will probably make all right but the sorghums quite likely will not.

Dalhart, continued:

The first and the last days of the week were the only days that field work could be accomplished. Most plots were still too wet to work yet this evening. All roads and waste areas were mowed or hoed free of weeds during the week. It was necessary to spray the grapes this week.

Mr. Frank Gaines, of the Lubbock, Texas, Station, visited the station on Monday, July 21.

Maximum temperature 100; minimum 58; precipitation, 3.76 inches. Wind velocity, 5.7 miles per hour; evaporation, 2.367 inches.

BIG SPRING:

Weather conditions have not improved any during the past week. It was thought that the long dry spell was going to be broken during the past week when it started to rain, but the extent of this was only .13 inch, which barely settled the dust. All of the sorghum crops are rolling badly, every afternoon, but most of them come out of it by the next morning. Cotton is not wilting, but is not making much growth. Sudan grass plots in the rotations and in the varieties were harvested with the mower during the week because they were burning up at a height of 24 inches.

Practically every thing on the station was cultivated for the second time during the past week. Other work has consisted of cleaning roadways and fence rows.

Mr. E. F. Chilcott was a station visitor on July 25 and 26.

Maximum temperature 100; minimum 71; precipitation, .13 inch.

LAWTON:

During the 11-day period from July 16 to 26, inclusive, there have been but two days when the maximum temperature was less than 100 degrees. Minimum temperatures the past week have been running from 73 to 77. No precipitation has been recorded since July 1.

Lawton, continued:

Although the foliage on grain and forage sorghums is severely burned the plants are heading and resisting drought and insect injury remarkably well. All of the corn except that grown on fallow has been harvested. The crop as a whole was poorly eared and the grain did not mature.

Cotton bloomed quite freely the past week. Some bolls have set, but shedding of the young squares has been very noticeable all week. The plants wilt during the day, showing an acute need of rain.

The following varieties of grapes were picked July 23: Manito, Captain, Cloeta, America, Ben Hur, Beacon and Delaware. The yields were light, varying from 1 to 19 pounds per vine. The bunches were poorly filled and the fruit shriveled. In each case picking was necessary before the fruit was sufficiently ripe. Bird damage was also a little heavier than usual.

WOODWARD:

The weather continues to be hot and dry, but row crops are surviving with no serious injury except corn is showing effects of the drought somewhat. Grass pastures over the country are practically withered up, and it is too dry for farmers to accomplish much preparation of wheat land.

Station work for the week consisted of odd jobs of cultivating and hoeing out scattered weeds over the entire station, planting grass in washout ditches, and construction work on new house.

Maximum temperature 103; minimum 64; precipitation, .07 inch.